

# Shellfish Protection

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## ***Puget Sound Management Plan Goals***

- Protect water quality and prevent contamination of commercial and recreational shellfish beds so shellfish are safe for human consumption.
- Reduce contamination of shellfish beds to achieve a net increase in acreage approved for harvest.
- Prevent human consumption of shellfish from contaminated beds until such time as the contamination is corrected.

## **Strategies for Achieving the Goals**

- Adopt policies to ensure that pollution-control and land-use programs effectively protect water quality in shellfish areas.
- Respond to existing and potential shellfish contamination with aggressive restoration and protection programs.
- Monitor shellfish areas for bacterial contamination, marine biotoxins and other contaminants.
- Increase public involvement and education related to shellfish protection.

## **Background and Trends**

Washington State is the leading producer of farmed shellfish in the United States. The annual wholesale value of commercial clam, oyster and mussel production in Puget Sound is nearly \$50 million. Approximately 250,000 people harvest shellfish recreationally from the Sound's 1,300 public beaches each year.

Shellfish cannot be harvested from about 25 percent of the Sound's classified commercial harvest areas due to bacterial contamination from improperly treated human sewage and animal waste. Fe-

cal bacteria originate from many sources, including inadequately treated sewage from municipal treatment plants and on-site sewage systems, poorly managed wastes from farm animals, stormwater runoff, untreated sewage from boats, and pet and wild animal feces. Municipal and industrial wastewater, combined sewer overflows and stormwater runoff prevent commercial harvest in urban areas, including the Sound's heavily populated eastern shore from Everett to Tacoma.

Since 1987, citizens, businesses, conservation districts, and tribal, state and local governments have worked hard to protect and restore water quality in shellfish beds. This work led to the reopening of more than 10,000 commercial acres in the 1990s, which was unfortunately offset by nearly identical losses in other acreage during the period. In an effort to prevent future downgrades of shellfish harvest areas, the Department of Health now notifies tribal and local governments, the shellfish industry and other interests when water quality is declining and closures may be imminent. The department also partners with local health agencies to classify recreational shellfish areas, educate the public and monitor shellfish areas for biotoxins such as paralytic shellfish poison (PSP).

Tools to reduce bacterial pollution include watershed plans, local programs for managing stormwater and on-site sewage systems, farm management plans, shellfish protection districts, shellfish closure-response plans, and financial and technical assistance programs. The Puget Sound shellfish protection program calls on a number of organizations to carry out this work, including state agencies, local and tribal governments, shellfish growers, citizen committees and non-profit organizations.

## **Highlights of 2001-2003 Actions**

- Health will identify and address water quality declines in shellfish growing areas prior to downgrades in classification.
- Health will continue to monitor water quality, assess pollution sources, identify corrective actions and classify commercial and recreational shellfish growing areas.
- Health, the Department of Ecology and the Action Team support staff will implement the agreement on shellfish closure response planning.
- Health, the University of Washington, Ecology and Action Team support staff will provide technical assistance and education on protection of shellfish beds.

## **2001-2003 Budget for State Actions**

Total Provided Funding	\$1,721,834
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JOINT STATE AND FEDERAL ACTIONS	OUTCOMES	See page 9 for key.					
		Pri-ori-ty	Non-point	Sal-mon	Budget Code	PS Plan Element	Action ID
The state departments of Health, Ecology, Natural Resources, and Fish and Wildlife; the Office of Community Development; the State Parks and Recreation Commission; the Conservation Commission; the Northwest Indian Fisheries Commission; Washington Sea Grant; Washington State Cooperative Extension; the Northwest Straits Commission; local marine resource committees; and local and tribal governments, in cooperation with the Action Team support staff will work cooperatively and aggressively to assess shellfish protection needs, to protect and restore water quality in shellfish areas, to enhance shellfish harvest opportunities and to prevent the consumption of contaminated shellfish.							
DEPARTMENT OF FISH AND WILDLIFE							
	Programs for protecting shellfish will be coordinated.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DFW-03	SF-2	41
DEPARTMENT OF ECOLOGY							
	Programs for protecting shellfish will be coordinated.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOE-05	SF-2	41
DEPARTMENT OF HEALTH							
	Closure-response plans per the Memorandum of Agreement with Ecology and the Action Team will be developed. Agencies will participate in all shellfish water quality restoration and protection projects and in the implementation of watershed action plans where shellfish restoration or protection projects are included.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-2	41
PUGET SOUND WATER QUALITY ACTION TEAM							
	Activities will be coordinated and shellfish beds and harvest opportunities will be protected.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PSAT-04	SF-2	41
WASHINGTON STATE UNIVERSITY, COOPERATIVE EXTENSION							
	Programs for protecting shellfish will be coordinated.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WSU-01	SF-2	41

JOINT STATE AND FEDERAL ACTIONS		OUTCOMES		See page 9 for key.					
				Pri- ori- ty	Non- point	Sal- mon	Budget Code	PS Plan Element	Action ID
<p>The state departments of Health and Ecology and the Action Team support staff will cooperate and continue to implement the memorandum of agreement on shellfish-closure response planning.</p>									
<b>DEPARTMENT OF ECOLOGY</b>									
	Support for and participation in the development of closure-response plans will occur whenever a shellfish growing area is downgraded in classification.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOE-05	SF-7	42		
<b>DEPARTMENT OF HEALTH</b>									
	Support for and participation in the development of closure-response plans will occur whenever a shellfish growing area is downgraded in classification.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-7	42		
<b>PUGET SOUND WATER QUALITY ACTION TEAM</b>									
	Support for and participation in the development of closure-response plans will occur whenever a shellfish growing area is downgraded in classification.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PSAT-04	SF-7	42		
<p>The departments of Health and Ecology, and the Puget Sound Water Quality Action Team will assess issues and options for improving the early warning system and for instituting strategies to prevent the contamination of shellfish areas in collaboration with tribal and local governments and other interests.</p>									
<b>DEPARTMENT OF ECOLOGY</b>									
	The early warning system for shellfish closures will be improved and jurisdictions will be able to respond more quickly to pending downgrades or closures.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOE-05	SF-5	43		
<b>DEPARTMENT OF HEALTH</b>									
	The early warning system for shellfish closures will be improved and jurisdictions will be able to respond more quickly to pending downgrades or closures.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-5	43		
<b>PUGET SOUND WATER QUALITY ACTION TEAM</b>									
	The early warning system for shellfish closures will be improved and jurisdictions will be able to respond more quickly to pending downgrades or closures.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PSAT-03	SF-5	43		

		See page 9 for key.					
STATE AGENCY ACTIONS	OUTCOMES	Pri-ori-ty	Non-point	Sal-mon	Budget Code	PS Plan Element	Action ID
<b>DEPARTMENT OF ECOLOGY</b>							
Protect commercial and recreational shellfish beds from pollution. Provide technical assistance, including the Small Towns Environmental Program (STEP), and financial assistance to correct failing on-site systems. Reduce pollution from land clearing, agricultural and animal-keeping practices. As funding and staffing allow, assist with the early warning system and participate in the development of closure response strategies when shellfish growing areas are threatened or downgraded. Participate on Shellfish Advisory Committee.	The level of contamination of shellfish growing areas, particularly from bacteria, will be reduced. The number of certified growing areas will be increased. Closure response plans will be produced for each downgraded area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOE-05	SF-2	45
<b>DEPARTMENT OF HEALTH</b>							
Implement portions of the recreational shellfish plan. Help local health jurisdictions develop and implement recreational shellfish plans under the recreational shellfish beach regulations (Chapter 246-280 WAC). Provide funding to help local health jurisdictions conduct recreational shellfish activities. Continue classification of recreational shellfish beaches in cooperation with local health jurisdictions and focusing on public beaches with high use.	Contracts with interested Puget Sound counties will be established to conduct recreational shellfish activities. The contracts will be monitored through activity reports and on-site visits. Recreational shellfish beaches will be classified in cooperation with local health jurisdictions, focusing on unclassified public beaches with high use. The biotoxin hotline and internet site will be maintained to provide information to the public regarding biotoxin closures. When biotoxin levels exceed the closure criteria, areas will be closed immediately.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-03	SF-4	46
Work with local health jurisdictions, state agencies and others to inform and educate the public about shellfish issues. Coordinate and facilitate meetings of the Shellfish Advisory Committee to share information and consider recommendations on program activities and enhancements.	The public will receive information and education regarding shellfish issues. Methods include brochures, presentations, data sharing and attendance at community events.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-6	47
Continue to publish and distribute an annual inventory of commercial and recreational shellfish beds.	An annual inventory will be published and distributed by June 1 of each year.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-5	48
Provide technical assistance to protect and restore shellfish growing areas.	Technical assistance will be provided to other agencies and interested parties regarding water quality, pollution and shellfish sanitation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-2	49
Identify and address water quality declines in shellfish growing areas prior to downgrades in classification. Continue to distribute data and information on growing-area sanitation to state agencies, tribal and local governments, shellfish growers and other stakeholders. Information will include Health actions and fecal coliform trends in all areas identified as threatened with downgrades.	Water quality and pollution-source information about commercial growing areas and selected recreational areas will be distributed annually to affected state agencies, tribal and local governments, shellfish growers and other stakeholders. This information will help stakeholders address water quality declines in shellfish growing areas prior to downgrades in classification.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-2	50

		See page 9 for key.					
STATE AGENCY ACTIONS	OUTCOMES	Pri-ori-ty	Non-point	Sal-mon	Budget Code	PS Plan Element	Action ID
<b>DEPARTMENT OF HEALTH</b>							
Continue to monitor water quality, assess pollution sources, identify corrective actions and classify commercial and recreational shellfish growing areas.	Commercial and recreational shellfish growing areas will be classified. Water quality in all classified areas will be monitored. Water quality in areas where corrective actions are occurring will be reassessed. Other agencies will be helped to focus their pollution control efforts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-5	51
Plan, conduct and coordinate supplemental water-quality monitoring, pollution-source investigations and hydrographic assessments in threatened and downgraded shellfish areas.	Supplemental water quality and pollution-source information in priority areas for shellfish protection and restoration will be collected. The information will be provided to pollution-control agencies and stakeholders to help direct their activities.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-2	52
Identify pollution problems in shellfish growing areas and inform agencies with regulatory authority. Monitor the status of corrective actions.	Pollution problems will be provided to pollution-control agencies. Supplemental water-quality monitoring will be provided to reveal whether pollution-control activities have been effective and whether closed areas can be reopened for commercial or recreational harvest of shellfish.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-2	53
Provide technical assistance on shellfish sanitation and contamination source issues.	Other agencies and interested parties will receive assistance with shellfish sanitation issues and contamination source issues.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-2	54
Participate on interagency committees to coordinate programs and activities associated with the protection and management of shellfish resources.	Information about shellfish area restoration and protection activities and plans will be exchanged through consultations with tribal, state and local governments and other stakeholders.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-2	55
Assist in the development and implementation of watershed action plans where the beneficial use of shellfish resources exists or is restorable in the near future.	Watershed plans will protect or restore shellfish growing areas.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DOH-02	SF-2	56

		See page 9 for key.				
LOCAL GOVERNMENT ACTIONS	OUTCOMES	Pri-ori-tv	Non-point	Sal-mon	PS Plan Element	Action ID

## ***SOUNDWIDE***

### **THE PUGET SOUND ACTION TEAM RECOMMENDS THAT:**

<p>Local governments and other affected local jurisdictions should control pollution, manage land uses, and involve and educate people to protect and restore water quality in shellfish areas. Measures should include:</p> <ul style="list-style-type: none"> <li>* Growth management plans and development regulations to prevent and mitigate the effects of development and land use activities on shellfish areas.</li> <li>* Voluntary and regulatory programs to ensure the proper management of on-site sewage systems, stormwater runoff, farm animal wastes and other nonpoint pollution sources.</li> <li>* Meeting with the Department of Health, Department of Ecology, Action Team support staff and other interests to discuss the status of shellfish areas and to initiate actions when areas are identified as threatened because of declining water quality.</li> <li>* Shellfish closure response strategies carried out in partnership with state agencies, tribes, growers and other interests to restore downgraded shellfish areas.</li> <li>* Shellfish protection districts (Chapter 90.72 RCW), stormwater utilities and other tools providing the means to protect and restore water quality in shellfish areas.</li> <li>* Watershed management plans and water cleanup plans to ensure long-term protection and restoration of shellfish harvest opportunities.</li> <li>* Recreational shellfish plans, carried out in partnership with the Department of Health, to monitor and classify recreational shellfish beaches and to involve and educate people on safe shellfish harvesting practices.</li> </ul>	<p>Water quality in shellfish growing areas will improve. The acreage of commercial shellfish beds available for harvest will remain stable or increase. The acreage of classified recreational beaches will increase. The acreage of recreational beaches approved for harvest will increase. Recreational harvesting of shellfish will occur in a safe and legal manner.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SF-2	58
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